

## 2. THE PERSIAN GULF REGION

### 2.1 GENERAL DESCRIPTION

The shamal occurs in a region comprising low-lying central areas encircled by mountains. At low elevations are the Persian Gulf, its immediate shoreline, and the Tigris-Euphrates valley. The bordering mountain ranges are the Taurus family of mountains in southern Turkey, the Pontic Mountains in northeast Turkey, the Caucasus Mountains of Georgian Russia, the Zagros Mountains of Iran, and the Hajar and Hejaz Mountains of the Arabian Peninsula. Regional geography and topography are shown in Figure 2-1.

The highest peaks of the Taurus chain in Turkey rise to 9000 ft (2743 m). The general elevation in the Eastern Taurus and Pontic Mountains is 9000-12,000 ft (2743-3658 m). The ridge heights of the Caucasus chain are generally 9000-12,000 ft (2743-3658 m), but some peaks exceed 12,000 ft (3658 m). The Zagros Mountains of Iran have a general elevation of 6000-9000 ft (1829-2743 m); some isolated peaks in the central part of the country are higher. The Hajar and Hejaz Mountains of the Arabian Peninsula are somewhat lower than in Iran or Turkey, with a general elevation of 3000-6000 ft (914-1829 m); in the southwest Arabian Peninsula, isolated peaks rise to 6000-9000 ft (1829-2743 m).

### 2.2 EFFECT OF TOPOGRAPHY ON AIR FLOW

The incursion of cold air into the Persian Gulf region from the north precedes the more intense winter shamals. The mountains of Turkey, Georgia, and Iran provide an effective barrier to all but the most intense of these incursions. Cold air can also reach the region by means of a less direct route, however: via the Aegean Sea or over the less impenetrable mountain barrier of western Turkey, thence across the eastern Mediterranean Sea, then over or around the relatively low mountains (3000-6000 ft/914-1829 m) of Syria and Lebanon, and into the upper Tigris-Euphrates valley.

The configuration of the topography also affects air flows within the Persian Gulf. The basin-like contours of the region, with sharply rising mountains to the north and east and more gradual upsloping terrain to the west and southwest, tend to direct the low-level air flow in a general northwest-southeast orientation.

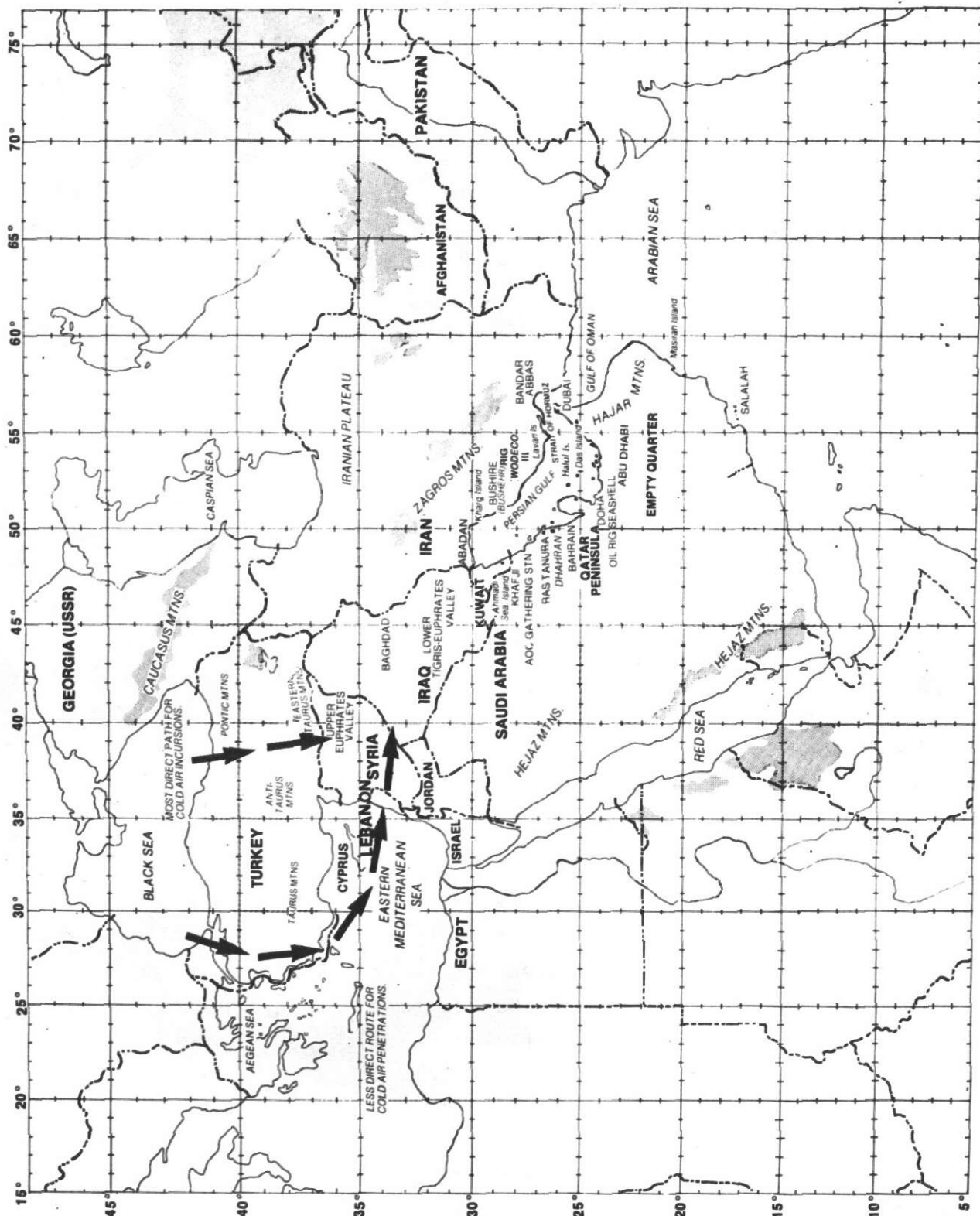


Figure 2-1. Locator map for the Persian Gulf region. Paths of cold air incursions into upper Euphrates valley are indicated by arrows.